Simplify each.

1.) $-2(4k^2 - 7k + 8)$

$-8k^2 + 14k - 16$

2.) $4g(6g^3 + 5g - 8)$

$24g^4 + 20g^2 - 32g$

3.) $\frac{5}{6}(15Q - 18)$

$\boxed{\frac{25}{2}Q - 15}$

$\frac{5}{6} \cdot \frac{15}{1} \quad \frac{5}{2} = \frac{25}{2}$

$2 \quad \frac{5}{6} \cdot \frac{\cancel{15}5}{1}$

4.) $-3cd^2(-6c^2d + cd^2 + 4d^3)$

$18c^3d^3 - 3c^2d^4 - 12cd^5$

5.) $\frac{4}{7}c^3(21c - 11)$

$$\frac{4}{7} \cdot \frac{\cancel{21}\,3}{1} = 12c^4 - \frac{44}{7}c^3$$

Simplify each:

1. $7k \cdot 8k$

$56k^2$

2. $6c^2 \cdot 8c^4$

$48c^6$

3. $2mx^2 \cdot 7m^2x^3$

$14m^3x^5$

4. $5w \cdot w^3$

$5w^4$

5. $10a^5b \cdot 3a^4$

$30a^9b$

Use this variable expression:

$-14w^2 -18wx +4x^2 -30$

- How many terms are there?

Terms are separated by addition or subtraction.

If variables and numbers are connected with multiplication and division they create a single term.

Use this variable expression:

$-14w^2 -18wx +4x^2 -30$

- What do we call the numbers -14, -18, and 4?

Coefficients   # infront of variable

Use this variable expression:

$-14w^2 - 18wx + 4x^2 - 30$

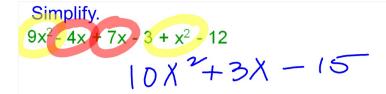- **What do we call the number -30?**

A constant ╫ w/o a variable

Term:

could be:
- just a number
- just a variable (with or without an exponent)
- the product of more than one variable
- the product of a number and a variable or variables.

Like Terms:

Terms that have <u>both</u> of the following conditions:
○ Same variable(s)
○ Same exponents on those variable(s)

$x \quad x^3$

○ What doesn't matter?

the coefficient

Rearrange these terms so that like terms are grouped together.

kj^2

$-kj \quad 0.55kj$
$k4j \quad 32jk$

$15k^2$
$-3k^2$
$3.7k^2$

$4,896jk^2$

$18k^2j$

$5k \quad -43k$

$-51.9j^2$

$144j^2$

$144j$
$j \quad -4j$

$100j^2k^2$
$-1.8k^2j^2$

Simplify.

$9x^2 - 4x + 7x - 3 + x^2 - 12$

$$10x^2 + 3x - 15$$

Combining like terms:

Finding terms that are alike then adding and subtracting them using the coefficients so that there is only one term with each type of variable part.

Simplify each.

1. $4(x + 7) - 3(2x - 4)$

$$4x + 2D - 6x + 12$$

$$\boxed{-2x + 40}$$

2. $5 - 4a(2a - 3) + 6a + 2a^2 - 9$

$$5 - 8a^2 + 12a + 6a + 2a^2 - 9$$

$$-4 - 6a^2 + 18a$$

$$-6a^2 + 18a - 4$$

3. $2c^2 + \dfrac{4}{3}c - 5c^2 - 3 + \dfrac{3}{5}c - 9$

$$-3c^2 + \frac{29}{15}c - 12$$

$$\frac{4 \cdot 5}{3} + \frac{3 \cdot 3}{5 \cdot 3}$$
$$\cdot 5$$

$$\frac{20}{15} + \frac{9}{15} = \frac{29}{15}$$

4. $\frac{3}{8} - \frac{5}{6}(9m + 12) - \frac{1}{4}m$

$\boxed{-\frac{31}{4}m - \frac{77}{8}}$

$-\frac{15}{2}m - 10 - \frac{1}{4}m$

$\frac{3}{8}$

$\frac{3}{8} - \frac{10 \cdot 8}{1 \cdot 8}$

$\frac{3 - 80}{8}$

$2 \cdot -\frac{15}{2} - \frac{1}{4} = -\frac{30}{4} \quad -\frac{1}{4}$

5. $-6a^2b + ab^2 - 4b^2a + 7ab - 2a^2b - 5ab^2$

$-8a^2b - 8ab^2 + 7ab$

Hwk #7 - Section 1.7 (due Monday)

pg. 50 #21-26, 35-42

IXL #2 - A.8 & I.7 due tonight by 6pm!